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Knowledge, attitude, and determinant factors towards emergency first-aid utilization among public transport service drivers in Injibara, northwest Ethiopia

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Abstract

Background Providing timely first-aid by trained responders can reduce deaths and disabilities from road traffic accidents, a leading global cause of death. Ethiopia ranks 19th worldwide and 4th in Africa. Therefore, this study assesses the knowledge and, attitudes toward emergency first aid, and its factors among public transport drivers in Injibara, Ethiopia.

Objective To assess the Knowledge, and Attitude towards first-aid utilization and its associated factors among Public Transport Service Drivers in Injibara, Northwest Ethiopia, 2023.

Methods A cross-sectional study was conducted involving 419 public transport drivers, selected systematically based on vehicle side numbers, starting with a random choice for the first respondent. Subsequent participants were chosen at every second interval (k = 2). A structured questionnaire was used to collect relevant data. Binary logistic regression was performed using SPSS V.26 to assess the associations between independent and dependent variables. The strength of these associations was measured using odds ratios and 95% confidence intervals, with a *P*-value < 0.05 deemed statistically significant.

Result The study revealed that the prevalence of good knowledge and favorable attitudes toward first-aid utilization was 33.2% and 38.2%, respectively. Participation in first-aid training (AOR = 0.566, $p = 0.027$), access to a first-aid kit (AOR = 1.65, $p = 0.027$), and prior experience using first-aid at accident scenes (AOR = 0.476, $p = 0.014$) were factors associated with better first-aid utilization. Drivers who had used a first-aid kit (AOR = 0.476, $p = 0.014$) and those exposed to training (AOR = 0.486, $p = 0.034$) demonstrated more positive attitudes toward first aid.

Conclusion The knowledge and attitude toward first-aid utilization remain low. Participation in first-aid training, access to first-aid kits, and experience using them during accidents were factors associated with improved knowledge. Additionally, drivers who have used first-aid kits and received training tend to have a favorable attitude

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toward their use. Therefore, relevant authorities must enhance the availability of first-aid kits, increase the exposure of drivers, and provide training to drivers to increase their knowledge and favorable attitude towards first-aid utilization.

Clinical trial number Not applicable.

Keywords Knowledge, Attitude, First aid, Transport service, Ethiopia

Introduction

First-aid refers to the immediate assistance provided to an injured person at the scene of an accident until professional help arrives [1, 2]. It is one of the six pillars of pre-hospital care and involves training laypeople to care for accident victims effectively [3]. Globally, road traffic accidents (RTAs) result in 1.35 million deaths annually, particularly in low- and middle-income countries, leading to substantial financial and economic losses for individuals, families, and nations [4, 5]. Timely first aid, which includes stopping life-threatening bleeding, opening airways, and splinting fractures, is crucial for preserving life, reducing suffering, preventing further injury, and encouraging recovery [4, 6, 7].

In Ethiopia, the high rate of RTA-related casualties underscores the importance of first-aid in reducing healthcare costs and fatalities. Educated individuals who provide immediate first-aid can significantly improve survival and reduce the severity of injuries. According to the International Federation of Red Cross societies, bystanders who administer first-aid save millions of lives annually. A study showed that hospitalized individuals with severe injuries who received first aid, such as airway protection, hemorrhage control, and gentle handling, either recovered or showed improvement, indicating the critical need for drivers to be equipped with basic -first-aid knowledge and skills [8, 9].

Despite this, many drivers lack adequate first-aid training and awareness. Only 38.6% of drivers in Ethiopia have used a first aid- kit, and many are unaware of essential techniques such as opening constricted airways [3]. This suggests that improving drivers' first-aid training could potentially save lives in traffic accidents. The high prevalence of injuries in Ethiopia highlights the need for better first-aid services and collaboration among all stakeholders to prevent and promptly treat injuries [10].

Road traffic accidents lead to loss of life and impose significant financial burdens due to medical expenses and productivity losses. Immediately following an accident, the "golden hour" is crucial for the victim's survival and recovery. Failure to administer timely first-aid can exacerbate injuries and jeopardize health and survival. In developing countries, first-aid interventions have been shown to reduce mortality rates by 25% [11].

A study conducted at Sharjah, United Arab Emirates (UAE) highlighted that although about 65.7% of drivers can correctly define first-aid, many have not applied it in emergencies, often due to concerns about severe injuries like breathing difficulties and bleeding wounds [12]. The lack of formal first-aid training among drivers is a significant barrier to providing aid. Airway obstruction is a leading cause of death at accident scenes, yet only a small percentage of victims receive proper support. Delays in medical treatment further worsen outcomes, with few victims reaching medical facilities within the critical first hour [3, 10, 13]. Studies indicate a decline in first-aid training among drivers, with a lack of formal training identified as a significant barrier to aiding [14, 15].

The high incidence of road traffic accidents, especially on interstate highways in the Amhara Region, emphasizes the need to prioritize first-aid training as a significant public health concern. The Amhara Regional Bureau's 2023 annual report highlights the severity of the situation, with 1,539 accidents resulting in 67 fatalities. In the Awi zone alone, 72 accidents led to 101 deaths and 43 severe injuries, with no reported driver support at the scenes. These statistics underscore the urgent need to assess and improve drivers' knowledge and attitudes toward first-aid to mitigate the impact of road traffic accidents [3, 16–18].

The study aims to investigate the knowledge and attitudes regarding first-aid among public transport drivers in Injibara, an area where this topic has not been thoroughly explored. By examining these aspects, the study seeks to enhance road safety and improve outcomes for accident victims.

Methods and materials

Study area and period The study was conducted at the Injibara public transport terminal from January to March 2023. Injibara, located in northwest Ethiopia, is the administrative center of the Awi zone. The town sits at an elevation of 2560 m and experiences heavy rainfall, supporting multiple crop harvests annually. With a population of 21,065, Injibara public transport system includes 826 vehicles, serving over 5,000 passengers daily across about 200 routes [19].

Study design A cross-sectional study design was conducted.

Source population All public transport drivers in Awi Zone.

Study population Public transport drivers operating at the Injibara terminal during the data collection period.

Inclusion and exclusion criteria

Inclusion Criteria: Public transport drivers serving routes from the Injibara terminal.

Exclusion Criteria: Public transport drivers serving routes from the Injibara terminal and have no side number registration.

Sample size determination The sample size was calculated using the single population proportion formula.
A study on taxi drivers in Addis Ababa, Ethiopia showed that the magnitude of first-aid knowledge was 46% [3].

$$\frac{(za/2)^2 * p)(1-p)}{(d)^2} = \frac{(1.96)^2 * 0.46)(1-0.46)}{(0.05)^2} = 381$$

Where:

n = required sample size = 381.

p = proportion of first-aid knowledge of taxi drivers at Addis Ababa (0.46).

d = margin of sampling error = 5%.

Z = the standard normal confidence internal = 1.96 the calculated sample size is 381.

When a 10% non-respondent rate was added to the final sample, the size was 419.

Sampling technique A systematic random sampling method was used to select drivers for the study. The Awi Zone Transport Department provided information on the 826 public transport services operating from the Injibara terminal. To ensure a representative sample, participants were chosen systematically. Drivers meeting the inclusion criteria were first identified and then listed based on side numbers. The first respondent was selected randomly, and subsequent respondents were chosen every kth position, where k was calculated as the ratio of the population (N) to the sample size (n), resulting in $k = N/n = 826/419 \approx 2$.

Study variables

Dependent variables Knowledge of emergency first-aid, Attitude towards emergency first-aid.

Independent Variable Socio-demographic factors: Age, sex, marital status, educational status, religion; Training-related factors: First-aid training, types of first-aid training, certification obtained; First-aid kit-related factors: Availability of first-aid kit, usage of kit, completeness of first-aid kit; other factors: Driving experience, origin of license, public transport level.

Data collection procedures Data collection was conducted using a pre-tested structured questionnaire and an observational checklist (Annex 1) through face-to-face interviews. The data collection tool has five categories: sociodemographic characteristics with eight items, first-aid knowledge assessment questionnaire with ten multiple-choice items, first-aid attitude assessment questionnaire with nine five-level Likert scale items, first-aid training-related questionnaire (five items), and first-aid kit related questionnaire and checklist (five items). These tools were developed from the literature and guidelines [3], were initially prepared in English, then translated into Amharic, and back-translated to ensure consistency. The data collection team consisted of two clinical nurses, one public health supervisor, and one facilitator from the Zonal Transport Department. The principal investigator provided a two-day training session covering the study objectives, tool usage, interviewing techniques, and data reporting. Data collection was scheduled to align with the drivers' routines, beginning before their departure at 5:30 p.m. and continuing after their return from 2:00 p.m. onwards. Facilitators from the Zonal Transport Department supported the process, with data collectors stationed at the terminals based on the sample from scheduled public transport lines.

Operational definitions

First-aid knowledge Each knowledge assessment question awards one point for a correct single response. Then, the scores were summed up and the mean score was calculated. Those who scored above or equal to the mean were considered to have good knowledge.

First-aid attitude Drivers' attitudes were measured using a nine-item five-point Likert scale, with responses indicating very low and low attitudes receiving scores of 1 and 2, while 3, 4, and 5 indicate neutral, high, and very high attitudes, respectively. The scores were summed up and the mean attitude score was calculated. Finally, those who scored greater or equal to the mean were considered to have positive attitudes.

Completeness of first-aid kit The completeness of a first-aid kit was categorized based on the presence of main first-aid items, with kits considered complete if they contain more than 75% of the essential items, and incomplete if less than 75%. The mandatory items in the first aid kit, as outlined by the Federal Transport Authority, include scissors, sterile gauze pads or wound dressings, gentian violet or Savion, alcohol, medical tape or wound plaster, cotton, a surgical blade, a small towel, disposable gloves, and a small round basin or kidney dish [3].

Data quality management Training sessions were held for data collectors, supervisors, and facilitators to familiarize them with the tools, field methods, inclusion and

exclusion criteria, and record-keeping practices. The researcher and supervisor closely monitored the interview process, conducting spot checks and reviewing completed questionnaires daily to ensure completeness and consistency. A pre-test was conducted with 5% of non-selected respondents in Font Selma town to identify and address potential issues. Based on the feedback, adjustments were made to the questionnaire to improve clarity and eliminate bias before full implementation. In addition, the pilot test result of the data collection tool shows acceptable reliability with a Cronbach's α value of 8.1.

Data analysis procedures The completed questionnaires were entered into EpiData 4.6 and then exported to SPSS version 26 for data cleaning and analysis. Descriptive statistics, including frequency measures, were presented in tables. To identify associations between variables, individual independent variables were fitted into a binary logistic regression model. Variables with a p-value ≤ 0.2 were included in a multivariable logistic regression model to account for potential confounders. The Hosmer-Lemeshow test assessed the model fitness, and associations were evaluated using odds ratios and 95% confidence intervals, with statistical significance set at $p < 0.05$.

Result

Socio-demographic characteristics of the study participants

A total of 419 male drivers were included, achieving a 100% response rate. Of the respondents, 223 (53.2%) were in the age range of 18–31 years. The mean age was 32.4 years, with a standard deviation (SD) of ± 7.153. In terms of educational background, 314 (74.9%) had completed secondary education or higher, while 105 (25.1%) had less than secondary education. Regarding marital status, 274 (65.4%) were single, and 145 (34.6%) were married. As for licenses, 274 (65.4%) were issued in the Amhara region, while 145 (34.6%) were from other regions. Regarding bus level, 235 (56%) were level one, and 52 (12.4%) were level three (Table 1).

Knowledge of public transport drivers towards first aid

Among the 419 participants, only 139 (33.2%) had good knowledge of providing first-aid during road traffic accidents (RTAs), while 280 (66.8%) had poor knowledge. Just 51 (12.2%) believed first-aid should be administered promptly during RTAs, and only 42 (10%) recognized public transport drivers as potential first-aid providers. Only 14 (3.3%) correctly identified breathing maintenance as a priority in first aid, and while 62 (14.8%)

Table 1 Socio-demographic and other characteristics of public transport drivers ($n = 419$), Injibara, 2023

Variable		Frequency	%
Age group	18-31years	223	53.2
	32–45	175	41.8
	> 45	21	5.0
Educational status	Primary (1–8)	105	25.1
	Secondary &above	314	74.9
Religion	Christian	316	74.7
	Muslim	106	25.3
Marital status	Single	274	65.4
	Married	145	34.6
Driving experiences	1–5 years	216	51.6
	6–10 years	183	43.7
	> 10 years	20	4.8
Origin of Driver's License	Amhara	274	65.4
	Other	145	34.6
Public transport level of vehicles for driving	Level one	235	56.1
	Level two	132	31.5
	Level three	52	12.4
Received training about first aid	Yes	313	74.7
	No	106	25.3
Availability of first-aid kit	Yes	62	14.8
	No	357	85.2
Ever use first-aid kit	Yes	62	14.8
	No	357	85.2
Basic first-aid items	> 75%	72	17.2
	50–75%	116	27.7
	< 50%	231	55.1

recognized breathing issues as airway problems, 76.1% were unaware of how to provide breaths to victims.

Regarding patient positioning after trauma, 326 (77.8%) did not know the correct position, with just 20 (4.8%) placing victims sideways and 38 (9.1%) positioning them face up. Additionally, only 28 (6.7%) applied tourniquets for severe bleeding, and 72.8% were unaware of how to stop bleeding. For fractures, 42 (10%) mentioned using splints, while 103 (24.6%) were unsure how to manage them (Table 2).

The attitude of public transport drivers toward first aid

Eighty-six participants, accounting for 20.5% of the total respondents, recognized the importance of providing immediate first-aid to road traffic accident (RTA) victims at the scene. In addition, 79 individuals (18.85%) expressed their willingness to administer first-aid to RTA victims.

The reasons for unwillingness to provide first-aid varied: 15.3% cited a fear of blood, 16.0% fear of infection, 18.4% concerns about medico-legal implications, and 26% reported not knowing what to do (Table 3).

Table 2 Knowledge of public transport drivers towards first aid ($n=419$), Injibara, 2023

Characteristics		*N*	%
Definition of first-aid	The care given to victims by only trained medical professional.	342	81.6
	Immediate or initial care is given to victims before trained medical workers arrive.	77	18.4
First-aid should be given during RTA	Immediate at scene	42	10
	When reaching at Hospital	309	73.7
	I do not know	68	16.2
Who should give during RTA?	Healthcare workers only	319	76.1
	Trained bystanders include drivers	56	13.4
	I do not know	44	10.5
Not a component of first-aid management of road traffic accident victim	Airway problem maintenance	37	8.8
	Stopping bleeding by applying pressure	47	11.2
	Splinting fractures	50	11.9
	Giving oral fluid to unconscious	34	8.1
	Save transport the victim to the hospital	9	2.1
	I do not know	242	57.8
Priority/done first for RTA victims	Airway problem maintenance	14	3.3
	Transport to hospital	37	8.8
	Stopping bleeding	50	11.9
	Splinting fractures	16	3.8
	I Do not know	302	72.1
Known sign of airway problem for RTA victim	Unconscious	51	12.2
	No breathing	62	14.8
	I do not know	306	73.0
Known how to give breath	Mouth to mouth	54	12.8
	Mouth to nose	46	11.0
	I do not know	306	73.0
Known how to stop severe bleeding	Apply tourniquet	28	6.7
	Tying the bleeding site with cloth/bandage	40	9.5
	Apply pressure and lift the injured	46	11.0
	I don't know	305	72.8
Known safe position after a traumatic event)	Placing the victim sideways.	20	4.8
	Keep the neck and head does not move and	38	9.1
	face up position Keep the patient face down position	35	8.4
	I do not know	326	77.8
Management of RTA victims with bone fracture	Immobilization using splinting	42	10.0
	Try twisting back into the place by Force	274	65.4
	I do not know	103	24.6
First-aid knowledge status of public transport drivers based on their score			
First-aid knowledge status ($n=419$)	Good	139	33.2
	Poor	280	66.8

Table 3 Attitude of public transport drivers towards first-aid ($n=419$), Injibara, 2023

Variable		Frequency	%
It is necessary to provide first aid immediately for RTA victims at the scene	Very high	42	10.0
	High	44	10.5
	Neutral	26	6.2
	Low	252	60.1
	Very low	55	13.1
Willingness to provide first-aid for RTA accident victims	Very high	37	8.8
	High	42	10.0
	Neutral	32	7.6
	Low	269	64.2
	Very low	39	9.3
It is not necessary to know first-aid since there is always someone who knows them in my field of work	Very high	74	17.7
	High	71	16.9
	Neutral	14	3.3
	Low	230	54.9
	Very low	30	7.2
First-aid knowledge is necessary only to people whose work is related to it.	Very high	38	9.1
	High	15	3.6
	Neutral	20	4.8
	Low	291	69.5
	Very low	55	13.1
First-aid plays a great role in our lives	Very high	37	8.8
	High	43	10.3
	Neutral	21	5.0
	Low	276	65.9
	Very low	42	10.0
If I have first-aid skills it is necessary for the protection of my family and myself	Very high	48	11.5
	High	49	11.7
	Neutral	23	5.5
	Low	244	58.2
	Very low	55	13.1
If I have good knowledge of first aid, I will not hesitate to use it when needed	Very high	42	10.0
	High	49	11.7
	Neutral	21	5.0
	Low	245	58.5
	Very low	62	14.8
If there were training sessions in first aid, I would immediately participate	Very high	47	11.2
	High	48	11.5
	Neutral	17	4.1
	Low	232	55.4
	Very low	75	17.9
I support first-aid course is included in the driver training curriculum	Very high	39	9.3
	High	42	10.0
	Neutral	18	4.3
	Low	231	55.1
	Very low	89	21.2
First-aid attitude status of public transport drivers based on their score			
First-aid attitude status	Positive	160	38.2
	Negative	259	61.8

Factors associated with first-aid knowledge

In the multivariable logistic regression analysis, participation in first-aid training, and availability of a first-aid kit, and ever-use kit were found to be significantly associated with first-aid knowledge.

This study revealed that those drivers who were not exposed to training regarding first-aid were 43.4% times less likely to know first-aid utilization than outer parts [AOR = 0.566 (0.342–0.938), $p = 0.027$). Availability of the kit was 1.65 times increased the knowledge towards first aid utilization than outer parts [AOR = 1.65(1.058–2.572), $p = 0.027$]. On the other hand, drivers who did not ever use a first-aid kit were 52.4% times less likely to have good knowledge of first-aid utilization [AOR = 0.476(0.263–0.860), $p = 0.014$) (Table 4).

Factors associated with attitude towards first aid

In the multivariable logistic regression, public transport drivers with exposure to first-aid training and those who had used a first-aid kit demonstrated more positive attitudes toward first aid.

This study revealed that those drivers who had not had the experience of training regarding first-aid were 51.4% times less likely to have a positive attitude towards first-aid utilization than outer parts [AOR = 0.486(0.249–0.947), $p = 0.034$). On the other hand, drivers who had not ever used a first-aid kit were 52.9% times less likely to have a positive attitude towards first-aid utilization [AOR = 0.471(0.266–0.836)), $p = 0.010$ (Table 5).

Discussion

The study's findings highlighted the level of knowledge and attitude towards first-aid utilization and its associated factors among drivers in Injibara, northwest Ethiopia. This study revealed that 74.7% of respondents had not undergone prior first-aid training, and 85.2% of public transport drivers had no access to, nor had ever utilized, a first-aid kit a figure closely resembling results from a study involving taxi drivers in Addis Ababa [10, 20]. This parallelism underscores a potential lack of focus on providing first-aid training to public transport drivers by both the Federal Transportation Authority and public transport associations. Furthermore, a substantial percentage (96.3%) of drivers demonstrated awareness of the definition of first aid, surpassing the figures from similar studies conducted in India and Addis Ababa [16, 21].

The findings regarding the adequacy of first-aid knowledge among public transport drivers in Injibara, where only 33.2% demonstrated sufficient understanding, reveal a concerning gap in key first-aid concepts. The study highlighted that most respondents lacked knowledge of the correct definition of first aid, its components, the proper timing for administering it, and the appropriate management of critical situations, such as stopping bleeding and positioning during fractures. This result is in line with studies from Sharjah, where 34%, and Nigeria, where 37.6% of drivers had sufficient knowledge [12, 22]. In addition, this finding aligns with a study conducted in Addis Ababa among taxi drivers, which similarly reported significant gaps in first-aid knowledge [3].

Table 4 Factors associated with knowledge towards first aid among drivers ($n = 419$), Injbara, 2023

Variables		Knowledge		95% COR	*P*-value	95% AOR	*P*-value
		Good	Poor				
Age	18–31	73	150	√			
	32–45	62	113	2.068(0.672, 6.368)	0.205	1.567(0.489–5.818)	0.450
	> 45	4	17	2.332(0.751–7.368)	0.143	1.837(0.576–5.853)	0.304
Religion	Muslim	27	79	0.613(0.374–1.005)	0.053	0.372(0.102–1.363)	0.136
	Christian	112	201	√			
Driving Experiences	1–5 years	144	72	√			
	6–10 years	64	119	2.833(0.804–9.984)	0.105	2.948(0.828–10.498)	0.095
	> 10 years	3	17	3.048(0861-10.792)	0.084	3.150(0.881–11.269)	0.078
Training	Yes	113	200	√			
	No	26	80	0.575(0.349–0.947)	0.030	0.566(0.342–0.938)	0.027*
First-aid kit availability	Yes	59	140	0.738(0.489–1.111	0.145	1.650(1.058–2.572)	0.027*
	No	80	140	√			
Ever use kit.	Yes	27	35	√			
	No	112	245	1.687(0.974–2.924)	0.062	0.476(0.263–0.860)	0.014**
Training type	Practice based	10	43	√			
	Nonpractice based	17	35	0.479(0.195–1.177)	0.109	0.497(0.174–1.422)	0.192
Basic first-aid item	75%	30	42	1.546(0.897–2.65)	0.117	0.903(0.180–4.532)	0.901
	50–75%	36	80	0.975(0.602–1.576)	0.917	1.942(0.617–6.117)	0.257
	< 50	73	158	√			

P-value < 0.05, ** *P*-value < 0.001. COR: Crude Odds Ratios; AOR: Adjusted Odds Ratios

Table 5 Factors associated with attitude towards first aid among drivers ($n=419$), Injbara, 2023

Variables		Attitude		95% COR	*P*-value	95% AOR	*P*-value
		Positive	Negative				
Religion	Christian	117	205	0.717(0.452–1.136)	0.156	1.088(0.252–4.694)	0.910
	Muslim	43	54	√			
Origin of Driver's License	Amhara	111	163	1.334(0.876–2.031)	0.179	1.147(0.332–3.966)	0.828
	other	49	96	√			
Public transport level of driving	Level one	98	131	1.68(0.88–3.20)	0.113	6.491(0.598–70.473)	0.124
	Level two	46	92	1.125(0.56–2.23)	0.737	10.720(0.935-122.846)	0.057
	Level three	16	36	√			
Training	Yes	138	207	√			
	No	22	52	0.635(0.369–1.092	0.101	0.486(0.249–0.947)	0.034*
Ever use kit	Yes	32	29	√			
	No	128	230	0.504(0.292–0.872)	0.014	0.471(0.266–0.836)	0.010**
Basic first-aid	75%	30	42	1.348(0.785–2.316)	0.279	1.833(0.471–7.131)	0.382
	50–75%	50	66	1.43(0.906–2.257)	0.125	0.875(0.262–2.919)	0.828
	< 50%	80	151	√			

* *P*-value < 0.05, ** *p*-value < 0.001; COR: Crude Odds Ratios; AOR: Adjusted Odds Ratios in multivariable analysis: first-aid attitude adjusted for ever use of first-aid kit and training

The similarity in findings between these studies suggests a common issue of inadequate first-aid knowledge among public transport drivers in different regions of Ethiopia. In contrast, studies conducted in the United Arab Emirates, Cameroon, and Uganda reported that 45.8%, 65.7%, and 86.7% of respondents, respectively, were knowledgeable about first aid [13, 23, 24]. This indicates a significant disparity in first-aid knowledge levels between the drivers in Injibara and those in the United Arab Emirates, Cameroon, and Uganda. The higher levels of first-aid knowledge among drivers in the United Arab Emirates, Cameroon, and Uganda can be attributed to several factors, including differences in training programs, better access to resources, and cultural attitudes that emphasize the importance of first-aid education. These countries may have more comprehensive training systems for public transport drivers and prioritize health and safety practices more effectively, resulting in enhanced preparedness for emergencies [25].

The findings from the study reveal a concerning lack of positive attitudes toward first-aid among respondents, with only 38.2% showing a favorable attitude. It is particularly troubling that the majority of public transport drivers expressed an unwillingness to provide first-aid at the scene of an accident. Additionally, many respondents believed that knowledge of first-aid was unnecessary and should not be included in the driving curriculum. These results are consistent with a similar study conducted in the United Arab Emirates, where 70% of respondents also demonstrated a negative attitude toward first aid. This highlights a widespread issue regarding the perception and importance of first-aid skills among the public [13].

The study also shed light on disparities in the availability of first-aid kits among public transport drivers, with only 49% of respondents meeting the recommended criteria. This discrepancy suggests a potential lack of adherence to regulations set forth by the Federal Transport Authority and underscores the need for stricter enforcement mechanisms to enhance road safety. The study found that demographic factors such as age, marital status, educational background, public transport level, and driving experience did not show a significant association with first-aid knowledge and attitudes. This contrasts with a study done for road traffic accident injuries in Africa [10].

However, participation in first-aid training and access to a first-aid kit were identified as significant factors. Public transport drivers who had access to a first-aid kit were 1.65 times more likely to have good knowledge of first-aid utilization while drivers not ever utilized a first-aid kit were 52.4% times less likely to know about the utilization of first-aid. This finding aligns with a study in Addis Ababa [3].

Furthermore, public transport drivers who had undergone first-aid training and had experience using a first-aid kit demonstrated significantly more positive attitudes toward first aid. This finding underscores the critical role that both training and access to essential resources play in shaping drivers' knowledge, skills, and attitudes regarding the provision of first aid in emergencies. By equipping drivers with the necessary training and resources, we can enhance their confidence and willingness to respond effectively when faced with accidents, ultimately contributing to improved road safety and better outcomes for injured individuals.

Limitation of the study

Since this study is cross-sectional, it does not demonstrate a cause-and-effect relationship. Additionally, we cannot include the practice aspect due to the challenges

associated with measuring practices, which primarily occur at the time of the accident.

Conclusion

This study revealed that the knowledge and attitude towards first-aid utilization among public transport drivers in the Injibara car terminal were 33.2% and 38.2% respectively which is low.

Exposure to training towards first aid, availability of first-aid kits, and ever use the first-aid kits were factors associated with knowledge towards first-aid utilization. Exposure to training and availability of first-aid training were positively associated while not-ever-used first-aid kits were negatively associated with knowledge of first-aid utilization. On the other hand, exposure to training and ever use of first-aid were factors associated with favorable attitudes towards the utilization of first-aid.

To increase drivers' knowledge and attitudes regarding the use of first aid in emergencies, it is recommended to provide training on first aid and to increase practical experience. Additionally, ensuring that first aid kits are available in vehicles is essential to increase knowledge. Therefore, regional and federal road authorities should prioritize the implementation of these factors that influence attitudes and knowledge about first aid utilization.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12873-025-01190-3.

Supplementary Material 1

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Author contributions
All authors made substantial contributions to conception and design, acquisition of data, analysis, and interpretation of data; took part in drafting the article, revising it critically for important intellectual content; agreed to submit to the current journal; gave final approval of the version to be published; and agree to be accountable for all aspects of the work.

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Data availability
The data sets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declarations

Ethics approval
This study was approved by Debre Markos University's College of Medicine and Health Science College Ethical Review Committee with approval number of Ref No: CHS/213/2014.

Consent to participate
Data collectors explained the purpose of the investigation, its benefits, and its procedures to each potential respondent, and any respondent seeking further clarification was assisted. The written informed consent to participate was then obtained from all participants before the start of the study. Any person unwilling to participate was not forced to do so and any person wishing to withdraw at any time during the study was free to do so. Confidentiality and privacy were strictly maintained. Only the principal investigator and research assistants accessed the data. In general, the study was carried out in accordance with the Declaration of Helsinki of the World Medical Association (WMA).

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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